

SECTION V-B - FM BROADCAST ENGINEERING DATA (Page 2)

4. Does the application propose to correct previous site coordinates?
If Yes, list old coordinates.

☐ Yes ☒ No

Latitude	°	'	"	Longitude	°	'	"
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5. Has the FAA been notified of the proposed construction?

☐ Yes ☒ No

If Yes, give date and office where notice was filed and attach as an Exhibit a copy of FAA determination, if available.

Exhibit No. N/A

Date _____ Office where filed _____

6. List all landing areas within 8 km of antenna site. Specify distance and bearing from structure to nearest point of the nearest runway.

	Landing Area	Distance (km)	Bearing (degrees True)
(a)	Pine Lake (Pvt.)	7.2 km	274°
(b)	August Acres	8.0 km	148°

7. (a) Elevation: (to the nearest meter)

(1) of site above mean sea level; 311 meters

(2) of the top of supporting structure above ground (including antenna, all other appurtenances, and lighting, if any); and 124 meters

(3) of the top of supporting structure above mean sea level [(aX1) + (aX2)] 435 meters

- (b) Height of radiation center: (to the nearest meter) H - Horizontal; V - Vertical

(1) above ground 119 meters (H)

119 meters (V)

(2) above mean sea level [(aX1) + (bX1)] 430 meters (H)

430 meters (V)

(3) above average terrain 118 meters (H)

118 meters (V)

8. Attach as an Exhibit sketch(es) of the supporting structure, labelling all elevations required in Question 7 above, except item 7(b)(3). If mounted on an AM directional-array element, specify heights and orientations of all array towers, as well as location of FM radiator.

Exhibit No. E-1

9. Effective Radiated Power:

(a) ERP in the horizontal plane

4.3 kw (H) 4.3 kw (V)

(b) Is beam tilt proposed?

☐ Yes ☒ No

If Yes, specify maximum ERP in the plane of the tilted beam, and attach as an Exhibit a vertical elevational plot of radiated field.

Exhibit No. N/A

 kw (H) kw (V)

=Polarization

10. Is a directional antenna proposed?

☒ Yes ☐ No

If Yes, attach as an Exhibit a statement with all data specified in 47 C.F.R. Section 73.316, including plot(s) and tabulations of the relative field.

Exhibit No.
E-1

11. Will the proposed facility satisfy the requirements of 47 C.F.R. Sections 73.315(a) and (b)?

☒ Yes ☐ No

If No, attach as an Exhibit a request for waiver and justification therefor, including amounts and percentages of population and area that will not receive 3.16 mV/m service.

Exhibit No.
N/A

12. Will the main studio be within the protected 3.16 mV/m field strength contour of this proposal?

☒ Yes ☐ No

If No, attach as an Exhibit justification pursuant to 47 C.F.R. Section 73.1125.

Exhibit No.
N/A

13. (a) Does the proposed facility satisfy the requirements of 47 C.F.R. Section 73.207?

☐ Yes ☒ No

(b) If the answer to (a) is No, does 47 C.F.R. Section 73.213 apply?

☒ Yes ☐ No

(c) If the answer to (b) is Yes, attach as an Exhibit a justification, including a summary of previous waivers.

Exhibit No.
E-1

(d) If the answer to (a) is No and the answer to (b) is No, attach as an Exhibit a statement describing the short spacing(s) and how it or they arose.

Exhibit No.
N/A

(e) If authorization pursuant to 47 C.F.R. Section 73.215 is requested, attach as an Exhibit a complete engineering study to establish the lack of prohibited overlap of contours involving affected stations. The engineering study must include the following:

Exhibit No.
E-1

- (1) Protected and interfering contours, in all directions (360°), for the proposed operation.
- (2) Protected and interfering contours, over pertinent arcs, of all short-spaced assignments, applications and allotments, including a plot showing each transmitter location, with identifying call letters or file numbers, and indication of whether facility is operating or proposed. For vacant allotments, use the reference coordinates as the transmitter location.
- (3) When necessary to show more detail, an additional allocation study utilizing a map with a larger scale to clearly show prohibited overlap will not occur.
- (4) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified.
- (5) The official title(s) of the map(s) used in the exhibit(s).

14. Are there: (a) within 60 meters of the proposed antenna, any proposed or authorized FM or TV transmitters, or any nonbroadcast (except citizens band or amateur) radio stations; or (b) within the blanketing contour, any established commercial or government receiving stations, cable head-end facilities, or populated areas; or (c) within ten (10) kilometers of the proposed antenna, any proposed or authorized FM or TV transmitters which may produce receiver-induced intermodulation interference?

☐ Yes ☒ No

If Yes, attach as an Exhibit a description of any expected, undesired effects of operations and remedial steps to be pursued if necessary, and a statement accepting full responsibility for the elimination of any objectionable interference (including that caused by receiver-induced or other types of modulation) to facilities in existence or authorized or to radio receivers in use prior to grant of this application. (See 47 C.F.R. Sections 73.315(b), 73.316(a) and 73.318.)

Exhibit No.
N/A

15. Attach as an Exhibit a 7.5 minute series U.S. Geological Survey topographic quadrangle map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the requirements set forth in Instruction V. The map must further clearly and legibly display the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers.

Exhibit No.
E-1

16. Attach as an Exhibit *(name the source)* a map which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.
E-1

(a) the proposed transmitter location, and the radials along which profile graphs have been prepared;

(b) the 316 mV/m and 1 mV/m predicted contours; and

(c) the legal boundaries of the principal community to be served.

17. Specify area in square kilometers (1 sq. mi. = 2.59 sq. km) and population (latest census) within the predicted 1 mV/m contour.

Area 2338 sq. km. Population 434,542

18. For an application involving an auxiliary facility only, attach as an Exhibit a map *(Sectional Aeronautical Chart or equivalent)* that shows clearly, legibly, and accurately, and with latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.
N/A

(a) the proposed auxiliary 1 mV/m contour; and

(b) the 1 mV/m contour of the licensed main facility for which the applied-for facility will be auxiliary. Also specify the file number of the license.

19. Terrain and coverage data *(to be calculated in accordance with 47 C.F.R. Section 73.313)*

Source of terrain data: *(check only one box below)*

☒ Linearly interpolated 90-second database ☐ 7.5 minute topographic map

(Source: NGDC)

☐ Other *(briefly summarize)*

SECTION V-B - FM BROADCAST ENGINEERING DATA (Page 5)

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 3 to 16 km ERP (meters) (dBk)		Predicted Distances	
			To the 3.16 mV/m contour (kilometers)	To the 1 mV/m contour (kilometers)
210 "	157	6.34	18.9	32.2
0	104	3.32	12.6	22.9
45	77	6.34	12.9	23.2
90	86	6.34	13.6	24.4
135	100	6.34	14.7	26.2
180	126	6.34	16.7	29.0
225	154	6.34	18.7	31.8
270	152	6.34	18.6	31.7
315	146	3.32	15.0	26.5

*Radial through principal community, if not one of the major radials. This radial should NOT be included in the calculation of HAAT.

20. Environmental Statement (See 47 C.F.R. Section 1.1301 et seq.)

Would a Commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant environmental impact? ☐ Yes ☒ No

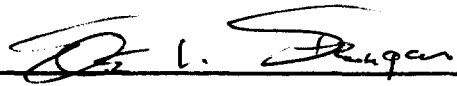
If you answer Yes, submit as an Exhibit an Environmental Assessment required by Section 1.1311.

Exhibit No.
N/A

If No, explain briefly why not. Categorically excluded by Section 1.1306 of the FCC Rules.

CERTIFICATION

I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined the foregoing and found it to be accurate and true to the best of my knowledge and belief.

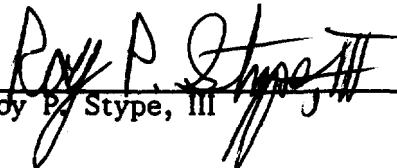
Name (Typed or Printed) Elmer L. Steingass	Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer
Signature 	Address (Include ZIP Code) 2324 N. Cleveland-Massillon Road Bath, OH 44210
Date 12/24/91	Telephone No. (Include Area Code) (216) 659-4440

ENGINEERING AFFIDAVIT

State of Ohio)
County of Summit) ss:

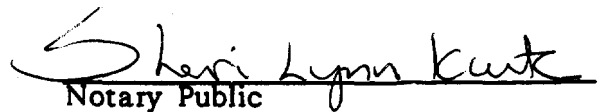
Roy P. Stype, III, being duly sworn, deposes and states that he is a graduate Electrical Engineer, a qualified and experienced Communications Consulting Engineer whose works are a matter of record with the Federal Communications Commission and that he is a member of the Firm of "Carl E. Smith Consulting Engineers" located at 2324 North Cleveland-Massillon Road in the Township of Bath, County of Summit, State of Ohio, and that the Firm has been retained by David A. Ringer to prepare the attached "Engineering Exhibit E-1."

The deponent states that the Exhibit was prepared by him or under his direction and is true of his own knowledge, except as to statements made on information and belief and as to such statements, he believes them to be true.



Roy P. Stype, III

Subscribed and sworn to before me this 24th day of December, 1991.



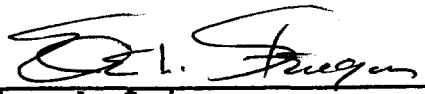
Notary Public

ENGINEERING AFFIDAVIT

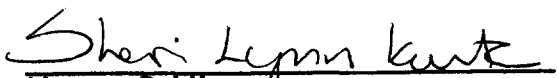
State of Ohio)
) ss:
County of Summit)

Elmer L. Steingass, being duly sworn, deposes and states that he is a qualified and experienced Communications Consulting Engineer whose works are a matter of record with the Federal Communications Commission and that he is a member of the Firm of "Carl E. Smith Consulting Engineers" located at 2324 North Cleveland-Massillon Road in the Township of Bath, County of Summit, State of Ohio, and that the Firm has been retained by David A. Ringer to prepare the attached "Engineering Exhibit E-1."

The deponent states that the Exhibit was prepared by him or under his direction and is true of his own knowledge, except as to statements made on information and belief and as to such statements, he believes them to be true.


Elmer L. Steingass

Subscribed and sworn to before me this 24th day of December, 1991.


Notary Public

SHERI LYNN KURTZ, Notary Public
For the State of Ohio
My Commission Expires June 14, 1995
Recorded in Summit County

/SEAL/

ENGINEERING STATEMENT

1.0 GENERAL

This engineering exhibit is prepared on behalf of David A. Ringer, in support of an application for a construction permit for a new FM station on Channel 280A in Westerville, Ohio. A filing window has been announced for this allotment which extends from November 25, 1991 through December 30, 1991. Thus, this application is being filed within the window period for this allotment.

The facilities proposed in the attached application will operate with a maximum effective radiated power of 4.3 kilowatts at 118 meters above average terrain, which is equivalent to the maximum facilities permitted for a Class A station. It should be noted that Canadian concurrence has already been obtained for 6 kilowatt operation on this channel. Thus, the attached application fully complies with all international agreements.

The proposed facilities will be short spaced to WTTF-FM - Tiffin, Ohio. Section 2.0 contains a complete discussion of this situation, as well as allocation considerations to all facilities requiring protection consideration.

The proposed facilities should constitute no hazard whatsoever with regard to human exposure to RF radiation. As outlined in FCC OST Bulletin No. 65, the worst case minimum height for a single three bay antenna operating with a total effective radiated power of 8.6 kilowatts is 16.6 meters to achieve compliance with ANSI Standard C95.1 - 1982. Since the proposed antenna will be mounted at a height of 119 meters above ground level, the power density levels at ground level will be well below the maximum permitted by the above standard. In addition, the applicant will comply with this ANSI Standard with regard to occupational exposure to RF radiation. Should work be necessary on the tower that will support this antenna, this facility will cease operation should

work be necessary within 17 meters (55 feet) of the center of radiation of this antenna.

2.0 ALLOCATION CONSIDERATIONS

Channel 280 is allotted to Westerville, Ohio, in Section 73.202(b) of the FCC Rules as a Class A facility. Table 2.0 is an FM allocation study showing the actual and required separations under 73.207 of the FCC Rules between the proposed facility and any applicable existing or proposed stations or allotments. It should be noted that the coordinates for the proposed facility are also the coordinates for the Westerville allotment. As shown by this table, the proposed facility will be short spaced to one station under the spacing requirements outlined in Section 73.207 of the FCC Rules:

WTTF-FM	Tiffin, OH	Channel 279B
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This short spacing is permissible under Section 73.215 of the FCC Rules

present the projections of the appropriate contours for WTTF-FM, assuming an antenna height of 383 meters above mean sea level. Tables 2.2(a) and 2.2(b) present the contour projections for the facilities proposed herein. These contour projections are based upon the actual proposed operating facilities, including the directional antenna pattern detailed in Section 3.0 of this exhibit. Terrain data used in projecting these contours was extracted from the NGDC 30 second terrain database. Figure 2.0 shows all of these contours on an appropriate map base. As shown by this figure, a small amount of overlap will occur between the 48 dBu, 10% contour for the proposed facilities and the 54 dBu, 50% contour of WTTF-FM.

It should again be noted that the facilities proposed herein specify operation from a transmitter site whose coordinates are also the allotment coordinates for Channel 280A in Westerville, Ohio. Furthermore, the separation between the site specified herein and WTTF presently complies with Section 73.213(c)(1) of the FCC Rules, thus permitting the facilities proposed herein to operate with a omnidirectional effective radiated power of 3 kilowatts at 100 meters above average terrain, or equivalent, in the arc toward WTTF. As shown in Section 3.0, the proposed directional pattern restricts the effective radiated power in this arc to the equivalent of 3 kW at 100 meters above average terrain. Thus, the

Finally, as shown in Table 2.0, the proposed facilities have the required separation from all other facilities requiring consideration.

TABLE 2.0

FM ALLOCATION STUDY - CHANNEL 280A (103.9 MHz) - WESTERVILLE, OH

DAVID A. RINGER
WESTERVILLE, OH

STUDY COORDINATES: 40/14/04 82/50/20

REQUIRED

WTTF CH279B
54.0 dBu CONTOUR
(FM(50,50) Curves Utilized)

BEARING (Degrees)	AVERAGE TERRAIN ELEVATION (meters)	ANTENNA HAAT (meters)	HORIZONTAL ERP (dBk) (kW)		DISTANCE TO CONTOUR (km)
0.0 *	216.3	166.7	16.99	50.000	67.1
10.0	213.3	169.7	16.99	50.000	67.5
20.0	209.1	173.9	16.99	50.000	67.9
30.0	207.2	175.8	16.99	50.000	68.1
40.0	206.7	176.3	16.99	50.000	68.2
45.0 *	206.6	176.4	16.99	50.000	68.2
50.0	208.3	174.7	16.99	50.000	68.0
60.0	213.7	169.3	16.99	50.000	67.4
70.0	217.4	165.6	16.99	50.000	67.0
80.0	223.7	159.3	16.99	50.000	66.3
90.0 *	230.0	153.0	16.99	50.000	65.5
100.0	233.2	149.8	16.99	50.000	65.0
110.0	235.5	147.5	16.99	50.000	64.7
120.0	236.0	147.0	16.99	50.000	64.6
130.0	236.6	146.4	16.99	50.000	64.6
135.0 *	234.9	148.1	16.99	50.000	64.8
140.0	233.7	149.3	16.99	50.000	65.0
150.0	232.7	150.3	16.99	50.000	65.1
160.0	233.8	149.2	16.99	50.000	65.0
170.0	241.6	141.4	16.99	50.000	63.9
180.0 *	242.3	140.7	16.99	50.000	63.8
190.0	242.0	141.0	16.99	50.000	63.8
200.0	242.9	140.1	16.99	50.000	63.7
210.0	243.9	139.1	16.99	50.000	63.5
220.0	243.6	139.4	16.99	50.000	63.6
225.0 *	242.9	140.1	16.99	50.000	63.7
230.0	240.5	142.5	16.99	50.000	64.0
240.0	239.1	143.9	16.99	50.000	64.2
250.0	236.5	146.5	16.99	50.000	64.6
260.0	231.2	151.8	16.99	50.000	65.3
270.0 *	226.1	156.9	16.99	50.000	66.0
280.0	225.6	157.4	16.99	50.000	66.0
290.0	225.6	157.4	16.99	50.000	66.0
300.0	224.8	158.2	16.99	50.000	66.1
310.0	224.2	158.8	16.99	50.000	66.2
315.0 *	219.9	163.1	16.99	50.000	66.7
320.0	217.3	165.7	16.99	50.000	67.0
330.0	216.4	166.6	16.99	50.000	67.1
340.0	216.6	166.4	16.99	50.000	67.1
350.0	215.7	167.3	16.99	50.000	67.2

AVERAGE(*) = 227.4 meters

TABLE 2.1(a)

WTTF PREDICTED
54 dBu, 50% CONTOUR

David A. Ringer
Westerville, OH

WTTF CH279B
54.0 dBu CONTOUR
(FM(50,10) Curves Utilized)

BEARING (Degrees)	AVERAGE TERRAIN ELEVATION (meters)	ANTENNA HAAT (meters)	HORIZONTAL ERP		DISTANCE TO CONTOUR (km)
			(dBk)	(kW)	
0.0 *	216.3	166.7	16.99	50.000	80.5
10.0	213.3	169.7	16.99	50.000	80.9
20.0	209.1	173.9	16.99	50.000	81.5
30.0	207.2	175.8	16.99	50.000	81.7
40.0	206.7	176.3	16.99	50.000	81.8
45.0 *	206.6	176.4	16.99	50.000	81.8
50.0	208.3	174.7	16.99	50.000	81.6
60.0	213.7	169.3	16.99	50.000	80.9
70.0	217.4	165.6	16.99	50.000	80.3
80.0	223.7	159.3	16.99	50.000	79.5
90.0 *	230.0	153.0	16.99	50.000	78.6
100.0	233.2	149.8	16.99	50.000	78.1
110.0	235.5	147.5	16.99	50.000	77.7
120.0	236.0	147.0	16.99	50.000	77.7
130.0	236.6	146.4	16.99	50.000	77.6
135.0 *	234.9	148.1	16.99	50.000	77.8
140.0	233.7	149.3	16.99	50.000	78.0
150.0	232.7	150.3	16.99	50.000	78.2
160.0	233.8	149.2	16.99	50.000	78.0
170.0	241.6	141.4	16.99	50.000	76.8
180.0 *	242.3	140.7	16.99	50.000	76.7
180.0	242.3	141.0	16.99	50.000	76.7

WESTERVILLE PROPOSED CH280A

60.0 dBu CONTOUR

(FM(50,50) Curves Utilized)

BEARING (Degrees)	AVERAGE TERRAIN ELEVATION (meters)	ANTENNA HAAT (meters)	----- HORIZONTAL -----			DISTANCE TO CONTOUR (km)
			RELATIVE FIELD	(dBk)	ERP (kW)	
0.0 *	325.7	104.1	0.706	3.32	2.146	22.9
5.0	330.6	99.2	0.706	3.32	2.146	22.3
10.0	330.1	99.7	0.790	4.29	2.687	23.6
20.0	335.9	93.9	0.994	6.29	4.253	25.4
30.0	343.3	86.5	1.000	6.34	4.305	24.5
40.0	350.4	79.4	1.000	6.34	4.305	23.6
45.0 *	352.6	77.2	1.000	6.34	4.305	23.2
50.0	351.3	78.5	1.000	6.34	4.305	23.4
60.0	352.2	77.6	1.000	6.34	4.305	23.3
70.0	351.3	78.5	1.000	6.34	4.305	23.4
80.0	348.8	81.0	1.000	6.34	4.305	23.8
90.0 *	344.1	85.7	1.000	6.34	4.305	24.4
100.0	343.0	86.8	1.000	6.34	4.305	24.6
110.0	339.7	90.1	1.000	6.34	4.305	25.0
120.0	333.5	96.3	1.000	6.34	4.305	25.8
130.0	330.5	99.3	1.000	6.34	4.305	26.2
135.0 *	330.0	99.8	1.000	6.34	4.305	26.2
140.0	330.1	99.7	1.000	6.34	4.305	26.2
150.0	327.8	102.0	1.000	6.34	4.305	26.5
160.0	323.2	106.6	1.000	6.34	4.305	27.1
170.0	312.0	117.8	1.000	6.34	4.305	28.3
180.0 *	304.2	125.6	1.000	6.34	4.305	29.0
190.0	298.4	131.4	1.000	6.34	4.305	29.6
200.0	277.7	152.1	1.000	6.34	4.305	31.6
210.0	272.9	156.9	1.000	6.34	4.305	32.2
220.0	275.4	154.4	1.000	6.34	4.305	31.9
225.0 *	275.8	154.0	1.000	6.34	4.305	31.8
230.0	276.8	153.0	1.000	6.34	4.305	31.7
240.0	280.6	149.2	1.000	6.34	4.305	31.3
250.0	281.0	148.8	1.000	6.34	4.305	31.3
260.0	279.8	150.0	1.000	6.34	4.305	31.4
270.0 *	277.5	152.3	1.000	6.34	4.305	31.7
280.0	277.4	152.4	1.000	6.34	4.305	31.7
290.0	278.4	151.4	1.000	6.34	4.305	31.6
295.0	279.8	150.0	0.997	6.31	4.279	31.4
300.0	281.5	148.3	0.889	5.32	3.402	29.6
310.0	282.9	146.9	0.706	3.32	2.146	26.5
315.0 *	283.7	146.1	0.706	3.32	2.146	26.5
320.0	284.9	144.9	0.706	3.32	2.146	26.4
330.0	290.9	138.9	0.706	3.32	2.146	25.9
340.0	302.0	127.8	0.706	3.32	2.146	25.0
350.0	308.0	121.8	0.706	3.32	2.146	24.5

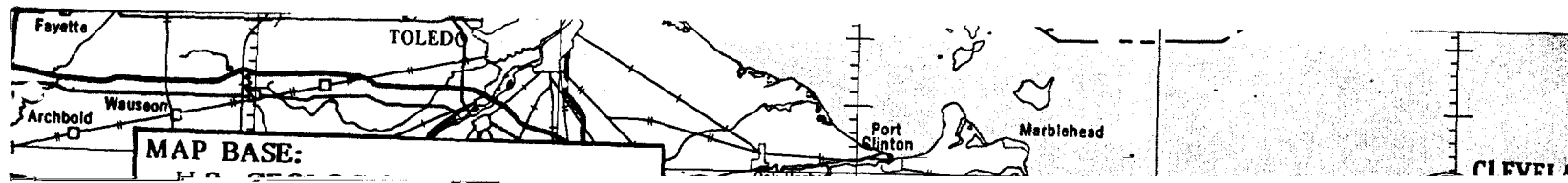
AVERAGE(*) = 311.7 meters

TABLE 2.2(a)

PROPOSED PREDICTED
60 dBu, 50% CONTOURDavid A. Ringer
Westerville, OH

WESTERVILLE PROPOSED CH280A
48.0 dBu CONTOUR
(FM(50,10) Curves Utilized)

BEARING (Degrees)	AVERAGE TERRAIN ELEVATION (meters)	ANTENNA HAAT (meters)	----- RELATIVE FIELD	HORIZONTAL (dBk)	----- ERP (kW)	DISTANCE TO CONTOUR (km)
0.0 *	325.7	104.1	0.706	3.32	2.146	48.5
5.0	330.6	99.2	0.706	3.32	2.146	47.5
10.0	330.1	99.7	0.790	4.29	2.687	50.2
20.0	335.9	93.9	0.994	6.29	4.253	54.4
30.0	343.3	86.5	1.000	6.34	4.305	53.0
40.0	350.4	79.4	1.000	6.34	4.305	51.3
45.0 *	352.6	77.2	1.000	6.34	4.305	50.7
50.0	351.3	78.5	1.000	6.34	4.305	51.1
60.0	352.2	77.6	1.000	6.34	4.305	50.8
70.0	351.3	78.5	1.000	6.34	4.305	51.1
80.0	348.8	81.0	1.000	6.34	4.305	51.7
90.0 *	344.1	85.7	1.000	6.34	4.305	52.8
100.0	343.0	86.8	1.000	6.34	4.305	53.0
110.0	339.7	90.1	1.000	6.34	4.305	53.7
120.0	333.5	96.3	1.000	6.34	4.305	55.0
130.0	330.5	99.3	1.000	6.34	4.305	55.6
135.0 *	330.0	99.8	1.000	6.34	4.305	55.6
140.0	330.1	99.7	1.000	6.34	4.305	55.6
150.0	327.8	102.0	1.000	6.34	4.305	56.1
160.0	323.2	106.6	1.000	6.34	4.305	56.9
170.0	312.0	117.8	1.000	6.34	4.305	58.7
180.0 *	304.2	125.6	1.000	6.34	4.305	59.8
190.0	298.4	131.4	1.000	6.34	4.305	60.7



3.0 PROPOSED ANTENNA SYSTEM

The proposed antenna will be a Jampro JSCP-3 (DA) three bay circularly polarized directional antenna. This antenna will be mounted on the existing tower previously employed by WBBY(FM) - Westerville, Ohio, whose license to operate on this allotment has been revoked. Table 3.0 presents a tabulation of the proposed directional pattern. Figure 3.0 presents this same data in polar form. Finally, Table 3.1 and Figure 3.1 present the proposed vertical radiation pattern for this antenna. It should be noted that the directional pattern shown herein is a composite envelope, or idealized pattern. When final pattern modeling is conducted by the antenna manufacturer, both the horizontally and vertically polarized radiation patterns will be totally encompassed within this envelope. Following the completion of this pattern modeling, the antenna will be mounted on the tower in accordance with the manufacturer's instructions. No other antennas will be mounted within or in close proximity to the aperture of this antenna. Furthermore, there will be no platform or other similar structure at the top of the proposed tower which could possibly distort the directional pattern of this antenna. The maximum proposed effective radiated power in both the horizontal and vertical polarizations will be 4.31 kilowatts. The maximum pattern suppression does not exceed the 15 dB value permitted by Section 73.316 of the FCC Rules. Furthermore, the slope of this pattern does not exceed 2 dB/10 degrees at any point on the pattern.

Figure 3.2 is a vertical plan view of the proposed installation.

TABLE 3.0

PROPOSED DIRECTIONAL PATTERNDavid A. Ringer
Westerville, OH

<u>Azimuth (Degrees)</u>	<u>Relative Field</u>	<u>dBk</u>	<u>ERP</u>	<u>kW</u>
0	0.706	3.32		2.15
5	0.706	3.32		2.15
10	0.790	4.29		2.69
20	0.994	6.29		4.25
30	1.000	6.34		4.31
40	1.000	6.34		4.31
45	1.000	6.34		4.31
50	1.000	6.34		4.31
60	1.000	6.34		4.31
70	1.000	6.34		4.31
80	1.000	6.34		4.31
90	1.000	6.34		4.31
100	1.000	6.34		4.31
110	1.000	6.34		4.31
120	1.000	6.34		4.31
130	1.000	6.34		4.31
135	1.000	6.34		4.31
140	1.000	6.34		4.31
150	1.000	6.34		4.31
160	1.000	6.34		4.31
170	1.000	6.34		4.31
180	1.000	6.34		4.31

TABLE 3.0 (cont'd)

<u>Azimuth (Degrees)</u>	<u>Relative Field</u>	<u>dBk</u>	<u>ERP</u>	<u>kW</u>
190	1.000	6.34		4.31
200	1.000	6.34		4.31
210	1.000	6.34		4.31
220	1.000	6.34		4.31
225	1.000	6.34		4.31
230	1.000	6.34		4.31
240	1.000	6.34		4.31
250	1.000	6.34		4.31
260	1.000	6.34		4.31
270	1.000	6.34		4.31
280	1.000	6.34		4.31
290	1.000	6.34		4.31
295	0.997	6.31		4.28
300	0.889	5.32		3.40
310	0.706	3.32		2.15
315	0.706	3.32		2.15
320	0.706	3.32		2.15
330	0.706	3.32		2.15
340	0.706	3.32		2.15
350	0.706	3.32		2.15

RELATIVE
FIELD

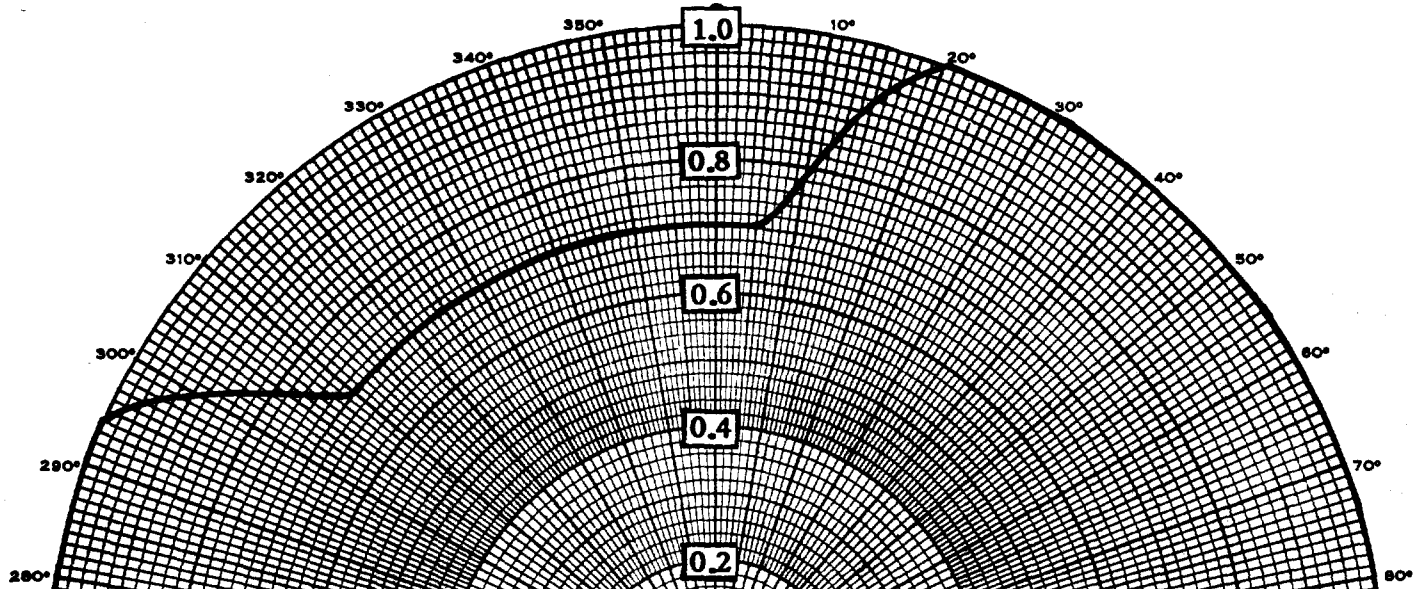
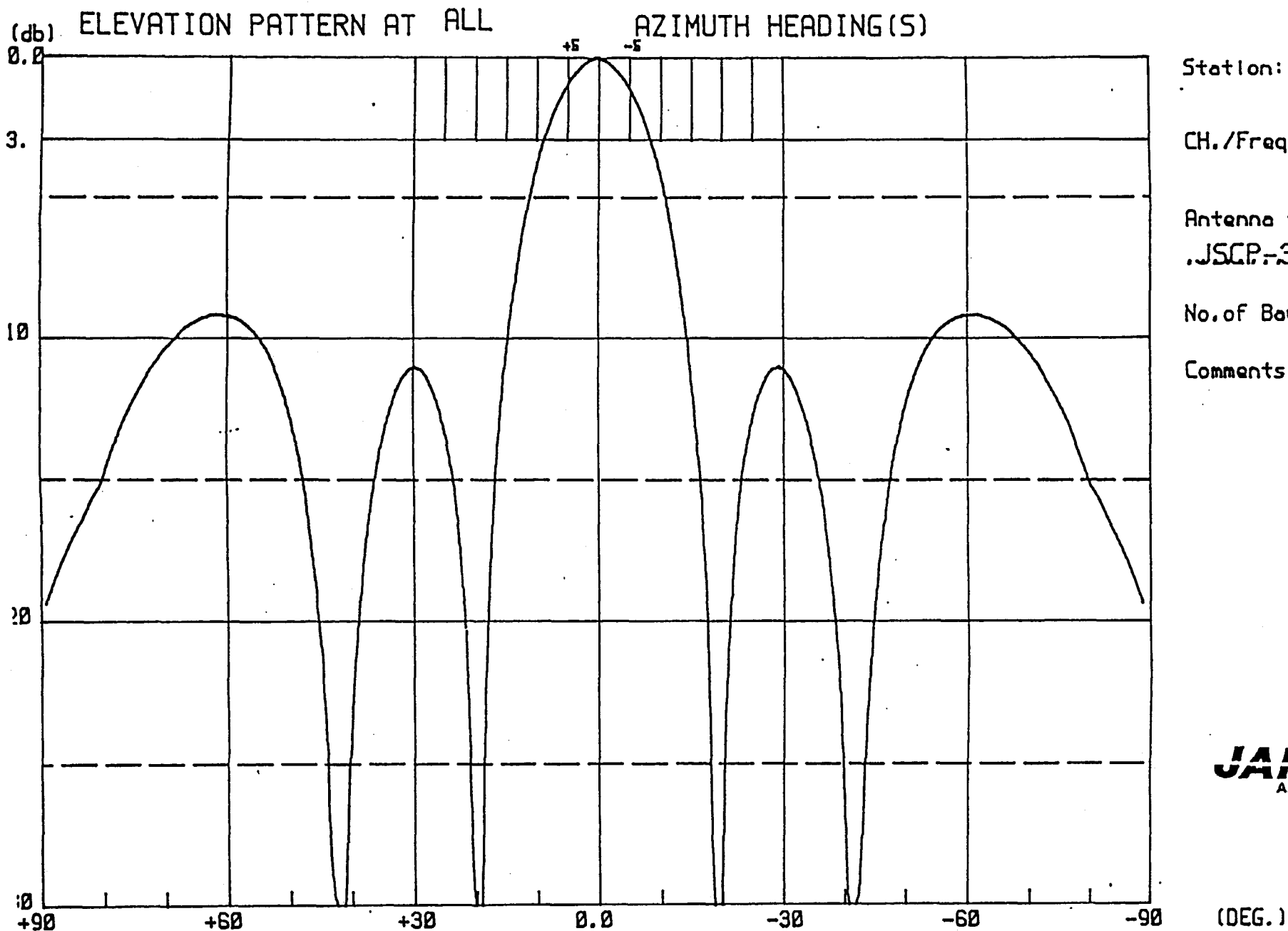


TABLE OF FIELD STRENGTH

3-BAY

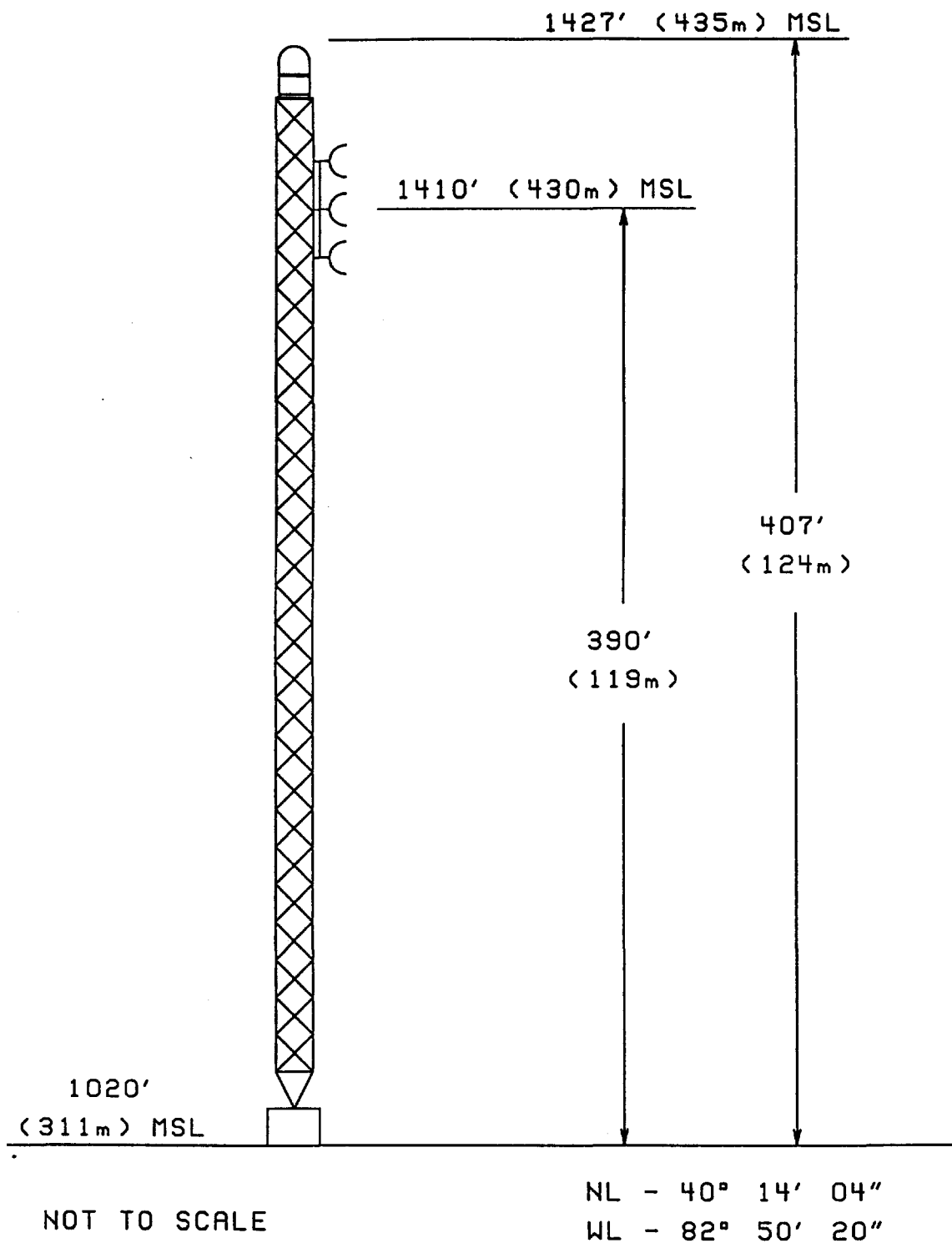
ELEV. ANGLE	FIELD STRNGTH	ELEV. ANGLE	FIELD STRNGTH	ELEV. ANGLE	FIELD STRNGTH	ELEV. ANGLE	FIELD STRNGTH	ELEV. ANGLE	FIELD STRNGTH
90.0	.100	89.0	.108	88.0	.116	87.0	.123	86.0	.131
85.0	.139	84.0	.147	83.0	.154	82.0	.162	81.0	.170
80.0	.177	79.0	.191	78.0	.204	77.0	.218	76.0	.231
75.0	.243	74.0	.256	73.0	.268	72.0	.280	71.0	.291
70.0	.301	69.0	.310	68.0	.319	67.0	.326	66.0	.333
65.0	.339	64.0	.343	63.0	.346	62.0	.348	61.0	.349
60.0	.347	59.0	.346	58.0	.342	57.0	.337	56.0	.330
55.0	.320	54.0	.320	53.0	.314	52.0	.307	51.0	.300



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FIG. 3.1
VERTICAL RADIATION PATTERN
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RINGVP1



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FIG. 3.2
VERTICAL PLAN VIEW

DAVID A. RINGER
WESTERVILLE, OH

4.0 PREDICTED SERVICE CONTOURS

The predicted proposed 3.16 mV/m contour is shown in Table 4.0. Likewise, Table 4.1 presents a tabulation of the predicted proposed 1 mV/m contour. Because a directional antenna is involved, these contours were projected at azimuth intervals of no more than 10 degrees, to insure sufficient detail. The average elevations of each of the radials was extracted from the NGDC 30 second terrain database. Only the eight cardinal radials, however, were utilized in calculating the overall height above average terrain. Utilizing these average